

M.E. Second Semester (Electrical & Elect.) (New-CGS)
13289 : Embedded Systems Design : 2 EEEME 2

P. Pages : 2

Time : Three Hours



AW - 3571

Max. Marks : 80

- Notes :
1. Due credit will be given to neatness and adequate dimensions.
 2. Assume suitable data wherever necessary.
 3. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) Compare the annual rate growth of : 7
 - a) IC capacity
 - b) Designer productivity
b) Explain Port pin circuits of port 0, port 1 and port 3. 7

OR

2. a) If Moore's law continuous to hold, predict the approximate number of transistor per leading edge IC in the year. 7
b) Differentiate general purpose processor, single purpose processor and ASIC with respect to design matrix, with suitable example. 7
3. a) Build a 2 - input : 6
 - i) AND Gate
 - ii) OR Gate Using minimum no. of Transistors.
b) Describe different RT level combinational and sequential components used to design single function processor. 7

OR

4. a) How combinational logic design can be formed from basic logic gates? 7
b) Given an analog input signal whose voltage ranges from 0 to 19 V and 8 bits for digital Encoding for 5V. Use successive approximation. Approach to find the correct encoding. 6
5. a) Draw and Explain Cache Mapping Techniques. 7
b) Compare 1 K * 8 ROMS into an 8k × 8ROMS. 6

OR

6. a) Explain with example block diagram of interrupt driven I/O using fixed ISR location with flow chart. 7

- b) Explain data transfer mechanism in I²C protocol. Compare it with CAN protocol based on bit rate and area of Application. 6
7. a) Explain finite state machine and concurrent process with suitable example. 7
- b) Explain programmable logic devices including FPGA. 6
- OR**
8. a) What is dataflow model? Give suitable examples. 7
- b) Explain different models that are used to describe Embedded Systems. 6
9. a) Explain Rate Monotonic Analysis (RMA) in Scheduling. 7
- b) Explain Interrupt Routine in RTOS Environment. 6
- OR**
10. a) Explain the role of Scheduler in RTOS. Compare preemptive and non – preemptive Scheduling Techniques. 7
- b) How mail box messages is different from queue message? 6
11. a) Explain Linux Kernel Architecture. 7
- b) In Relation to embedded Linux, how TCP/IP networking is done? Explain Network Configuration. 7
- OR**
12. In Relation to Embedded Linux, how TCP / IP Networking is done? Explain Network Configuration. 14
